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**TRANSMITTAL  
FORM**

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Total Number of Pages in This Submission

44

Application Number	10/715889
Filing Date	11/17/2003
First Named Inventor	Timm
Art Unit	3743
Examiner Name	Rinehart, Kenneth
Attorney Docket Number	1349

**ENCLOSURES (Check all that apply)**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached<br><input type="checkbox"/> Amendment/Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input type="checkbox"/> Information Disclosure Statement<br><br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Reply to Missing Parts/<br>Incomplete Application<br><input type="checkbox"/> Reply to Missing Parts<br>under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><input checked="" type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a<br>Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation<br>Change of Correspondence Address<br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><input type="checkbox"/> CD, Number of CD(s) _____<br><input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC<br><input type="checkbox"/> Appeal Communication to Board<br>of Appeals and Interferences<br><input type="checkbox"/> Appeal Communication to TC<br>(Appeal Notice, Brief, Reply Brief)<br><input type="checkbox"/> Proprietary Information<br><input type="checkbox"/> Status Letter<br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify<br>below):<br>copy response 10/20/2008<br>copy return postcard<br>copy notice abandonment |
|--|---|---|

Remarks

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name David J Archer M.I. Inf. Sc.

Signature

Printed name David J Archer

Date 01/12/2009

Reg. No. 31,076

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature

Typed or printed name David J Archer

Date 01/12/2009

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



**In the United States Patent and Trademark Office**

USSN: 10/715889

Applicant: Timm

Filed: 11/17/2003

Docket: 1349

Mail Stop :Issue fee

Commissioner for Patents,

P.O. Box 1450

Alexandria, VA 22313-1450

Sir,

**Petition to Withdraw Holding of Abandonment.**

In response to the attached Notice of Abandonment mailed 01/06/2009, Applicants timely files herewith a petition to the Director under 37 CFR 1.181 requesting withdrawal of the holding of abandonment for the following reasons:

1/ On October 20, 2008 Applicant filed a Response to the Office Letter mailed September 3, 2008. The Response included a petition for a 1 month extension along with the correct fee.

A copy of the Response dated October 20, 2008 is attached. The Response included a Modified

Appeal Brief (28 pages). A copy of the Modified Appeal Brief is attached.

Additionally Applicant files herewith a copy of the **return postcard** which indicates that the Response was received by the USPTO **October 22, 2008**.

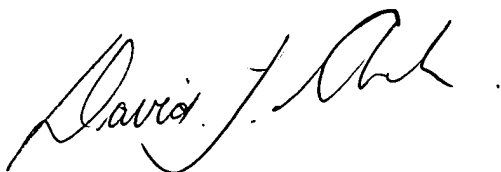
The Modified Appeal Brief completely addressed the issues raised in the Office Letter mailed September 3, 2008.

Additionally, in the Notice of Abandonment mailed 01/06/2009, the Examiner holds that "The applicant failed to meet the requirements of at least Section 4: Summary of claimed subject matter must identify and map all independent claims on appeal (12) to specification by page and line number or paragraph number. of the miscellaneous office action mailed on 9/3/08"

As clearly shown in the Modified Appeal Brief, pages 8-11, each independent claim 1 and 12 is mapped to the specification by paragraph number as required.

Accordingly, Applicant is of the opinion that the holding of abandonment should be withdrawn.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "David J. Archer".

David J. Archer

Reg. No. 31,076

Applicants representative.

WITH FOR PATENTS.

SIR,

PLEASE DATESTAMP & RETURN TO ADDRESS OVER.

TO ACKNOWLEDGE RECEIPT OF FOLLOWING RE:

USPN 10/715389.

5/PET 11X.

1/ RESPONSE TO NOTIFICATION.

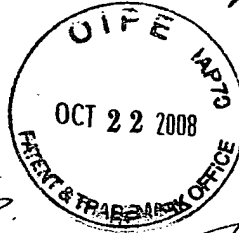
6/ MODIFIED APPEAL  
BRIEF 28145.

2/ TRANS.

3/ FEE TRANS.

4/ CHECK # 5187. 1/30

RESPECTFULLY SUBMITTED.



*MAL*

*JOLILET 134905.*

---

Commissioner for Patents  
P.O.Box 1450  
Alexandria VA 22313-1450

Sir,

Please datestamp and return to the address over to acknowledge receipt  
of the following re USSN 10/715889

Applicant:

Title:

- |                                  |     |
|----------------------------------|-----|
| 1/ PETITION TO DIRECTOR          | 6/  |
| 2/ COPY OF RETURN POSTCARD       | 7/  |
| 3/ REC BY USPTO 10/22/88         | 8/  |
| 4/ COPY OF NOTICE OF ABANDONMENT | 9/  |
| 5/                               | 10/ |

Respectfully submitted  
David J. Archer

Docket No:

1349

*DJL*

---

DAVID J. ARCHER  
LIC. A626-1704-1227  
7037 POMEROY RD. PH. 815-629-2750  
ROCKTON, IL 61072

79-7185,  
2759  
10099141

5187

DATE 10/20/2008

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David J. Archer

NP

⑆275971854⑆ 10099141⑆ 5187

SPECIALTY UNIT

COMM FOR PATENTS

SIR,

- PLEASE DATESTAMP & RETURN TO ADDRESS OVER  
TO ACKNOWLEDGE RECEIPT OF FOLLOWING RE:  
USN 10/715889. 5/PET 117X.  
1/ RESPONSE TO NOTIFICATION. 6/ MODIFIED APPEAL  
2/ TRANS. BRIEF 28PGS.  
3/ FEE TRANS.  
4/ CHECK # 5187 \$130

RESPECTFULLY SUBMITTED.

DJA

POLICET 1349 US.

**In the United States Patent and Trademark Office**

**Before the Board of Appeals and Interference.**

Appeal Brief

Applicant: Timm et al

USSN: 10/715889

Filed: 11/17/2003

Title: A dryer bar apparatus of a dryer.

Examiner Kenneth Rinehart.

Art unit: 3749

Docket: 1349

Mail Stop Appeal Brief

Commissioner for Patents,

P.O. Box 1450

Alexandria, VA 22313-1450

**C Paris Patent Appeals Specialist**

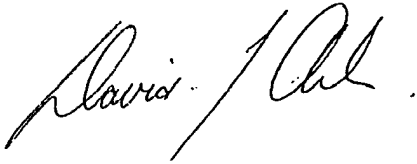
Sir,

**Response to Notification.**

In response to the Notification mailed 09/03/2008, Appellant files herewith a modified Appeal Brief which is in conformity with the requirements set forth in the Notification.

Appellant also files herewith a petition for a one month extension.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "David J Archer". The signature is written in a cursive style with a large, stylized "D" and "A".

David J Archer.

Reg No. 31, 076

Applicants representative.



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**TRANSMITTAL  
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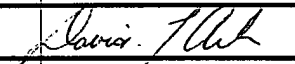
33

Application Number	10/715889
Filing Date	11/17/2003
First Named Inventor	Timm
Art Unit	3747
Examiner Name	Rinehart, Kenneth
Attorney Docket Number	1349US

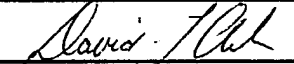
**ENCLOSURES (Check all that apply)**

<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Letter
Remarks _____		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	David J Archer M.I. Inf. Sc.		
Signature			
Printed name	David J Archer		
Date	10/20/2008	Reg. No.	31,076

**CERTIFICATE OF TRANSMISSION/MAILING**

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Signature			
Typed or printed name	David J Archer	Date	10/20/2008

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Effective on 12/08/2004.

Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

**FEE TRANSMITTAL**  
For FY 2009☐ Applicant claims small entity status. See 37 CFR 1.27TOTAL AMOUNT OF PAYMENT (\$) 130**Complete if Known**

Application Number	10/715889
Filing Date	11/17/2003
First Named Inventor	Timm
Examiner Name	Kenneth Rinehart
Art Unit	3747
Attorney Docket No.	1349US

**METHOD OF PAYMENT (check all that apply)**☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_☐ Deposit Account Deposit Account Number: \_\_\_\_\_ Deposit Account Name: \_\_\_\_\_

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee  
☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	330	165	540	270	220	110	
Design	220	110	100	50	140	70	
Plant	220	110	330	165	170	85	
Reissue	330	165	540	270	650	325	
Provisional	220	110	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	52	26
Each independent claim over 3 (including Reissues)	220	110
Multiple dependent claims	390	195
<b>Total Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>
- 20 or HP =	x	=
<b>Indep. Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>
- 3 or HP =	x	=

HP = highest number of total claims paid for, if greater than 20.

HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

<b>Total Sheets</b>	<b>Extra Sheets</b>	<b>Number of each additional 50 or fraction thereof</b>	<b>Fee (\$)</b>	<b>Fee Paid (\$)</b>
- 100 =	/ 50 =	(round up to a whole number) x	=	

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): One month extension fee

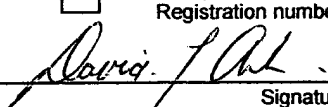
**Fees Paid (\$)**\$130**SUBMITTED BY**

Signature	<u>David J Archer</u>	Registration No. (Attorney/Agent)	31,076	Telephone	8156292750
Name (Print/Type)	David J Archer	Date	10/20/2008		

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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<b>PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)</b> <b>FY 2009</b> <i>(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)</i>	Docket Number (Optional) 1349US																								
Application Number 10/715889	Filed 11/17/2003																								
For																									
Art Unit 3747	Examiner Rinehart, Kenneth																								
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.</p> <p>The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 15%; text-align: center;"><u>Fee</u></th> <th style="width: 15%; text-align: center;"><u>Small Entity Fee</u></th> <th style="width: 30%;"></th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> One month (37 CFR 1.17(a)(1))</td> <td style="text-align: center;">\$130</td> <td style="text-align: center;">\$65</td> <td style="text-align: right;">\$ <u>130</u></td> </tr> <tr> <td><input type="checkbox"/> Two months (37 CFR 1.17(a)(2))</td> <td style="text-align: center;">\$490</td> <td style="text-align: center;">\$245</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Three months (37 CFR 1.17(a)(3))</td> <td style="text-align: center;">\$1110</td> <td style="text-align: center;">\$555</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Four months (37 CFR 1.17(a)(4))</td> <td style="text-align: center;">\$1730</td> <td style="text-align: center;">\$865</td> <td style="text-align: right;">\$ _____</td> </tr> <tr> <td><input type="checkbox"/> Five months (37 CFR 1.17(a)(5))</td> <td style="text-align: center;">\$2350</td> <td style="text-align: center;">\$1175</td> <td style="text-align: right;">\$ _____</td> </tr> </tbody> </table> <p><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.</p> <p><input type="checkbox"/> A check in the amount of the fee is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director has already been authorized to charge fees in this application to a Deposit Account.</p> <p><input type="checkbox"/> The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number _____.</p> <p><b>WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</b></p> <p>I am the <input type="checkbox"/> applicant/inventor.</p> <p><input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).</p> <p><input checked="" type="checkbox"/> attorney or agent of record. Registration Number <u>31076</u></p> <p><input type="checkbox"/> attorney or agent under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____</p> <div style="display: flex; justify-content: space-between; margin-top: 20px;"> <div style="width: 60%;"> <p style="text-align: center;"> _____ Signature</p> <p>David J Archer _____ Typed or printed name</p> </div> <div style="width: 35%;"> <p style="text-align: center;">10/20/2008 _____ Date</p> <p style="text-align: center;">8156292750 _____ Telephone Number</p> </div> </div>			<u>Fee</u>	<u>Small Entity Fee</u>		<input checked="" type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$130	\$65	\$ <u>130</u>	<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$490	\$245	\$ _____	<input type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$1110	\$555	\$ _____	<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$1730	\$865	\$ _____	<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2350	\$1175	\$ _____
	<u>Fee</u>	<u>Small Entity Fee</u>																							
<input checked="" type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$130	\$65	\$ <u>130</u>																						
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<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$2350	\$1175	\$ _____																						
<p>NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.</p> <p><input type="checkbox"/> Total of _____ forms are submitted.</p>																									

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**(A) Identification page****In the United States Patent and Trademark Office****Before the Board of Appeals and Interference.****Appeal Brief**

Applicant: Timm et al

USSN: 10/715889

Filed: 11/17/2003

Title: A dryer bar apparatus of a dryer.

Examiner Kenneth Rinehart.

Art unit: 3749

Docket: 1349

**Mail Stop Appeal Brief**

Commissioner for Patents,

P.O. Box 1450

Alexandria, VA 22313-1450

Sir,

**Appeal Brief.**

The following is an appeal brief filed pursuant to a Notice of Appeal filed June 12, 2008. Claims 1-14 were finally rejected in an Office Action mailed March 12, 2008. In the aforementioned final Office Action, claims 15 and 16 were allowed.

**Table of Contents.**

<b>(A)</b>	<b>Indentification page.....</b>	<b>page 1</b>
<b>(B)</b>	<b>Table of Contents:.....</b>	<b>page 2</b>
<b>(C)</b>	<b>Real party in interest:.....</b>	<b>page 3</b>
<b>(D)</b>	<b>Related appeals and interferences:.....</b>	<b>page 4</b>
<b>(E)</b>	<b>Status of claims:.....</b>	<b>pages 5-6</b>
<b>(F)</b>	<b>Status of Amendments:.....</b>	<b>page 7</b>
<b>(G)</b>	<b>Summary of claimed subject matter:.....</b>	<b>pages 8-11</b>
<b>(H)</b>	<b>Grounds of rejection to be reviewed on appeal:.....</b>	<b>page 12</b>
<b>(I)</b>	<b>Arguments:.....</b>	<b>pages 13-20</b>
<b>(J)</b>	<b>Claims appendix:.....</b>	<b>pages 21-26</b>
<b>(K)</b>	<b>Evidence appendix:.....</b>	<b>page 27</b>
<b>(L)</b>	<b>Related proceedings appendix:.....</b>	<b>page 28</b>

(C)

(i) The Real party in interest is:

**Kadant Johnson Inc.**

**(D)**

**(ii) Related appeals and interferences.**

**There are no related appeals or interferences.**

**(E)**

**(iii) Status of claims:**

**Claim 1 rejected**

**Claim 2 rejected**

**Claim 3 rejected**

**Claim 4 rejected**

**Claim 5 rejected**

**Claim 6 rejected**

**Claim 7 rejected**

**Claim 8 rejected**

**Claim 9 rejected**

**Claim 10 rejected**

**Claim 11 rejected**

**Claim 12 rejected**

**Claim 13 rejected**

**Claim 14 rejected**

**Claims 15 allowed.**

**Claims 16 allowed**

**Claims 17 cancelled**

**Claims 18 cancelled**

**Claims 19 cancelled**

**Claims 20 cancelled**



**Claims 21 cancelled**

**Claims 22 cancelled**

**Claims 23 cancelled**

**Claims 24 cancelled**

(F)

(iv) **Status of Amendments:**

**No amendment to the claims has been filed since the final rejection.**

(G)

(v) **Summary of claimed subject matter:**

**Independent claim 1            Paragraph 0098 of the published specification describes**  
a dryer bar apparatus 36 of a dryer 38 for drying a web  $W^b$  in a papermaking machine, the apparatus 36 comprising:

a rotatable dryer shell 12 of cylindrical configuration, the dryer shell having an outer surface 34 for drying the web  $W^b$ ;

the dryer shell 12 having an inner surface 16 which defines an enclosure 14, the inner surface 16 having a radius  $R_i$ ;

the enclosure 14 being connected to a source of pressurized steam 40 such that in operation of the dryer 38, a transfer of thermal energy from the steam within the enclosure 14 through the inner surface 16 of the dryer shell 12 to the outer surface 34 of the dryer shell 12 is achieved so that the web  $W^b$  is dried;

a syphon 30 disposed within the enclosure 14 for controlling a layer 32 of condensed steam 10 accumulating adjacent to the inner surface 16 of the dryer shell 12 during operation of the apparatus 36;

a specific number N of turbulence bars such as 18 to 23 are disposed within the enclosure 14 for

maximizing uniformity of the transfer of thermal energy in a cross machine direction CD and minimizing the transfer of thermal energy through the dryer shell 12 from the inner surface 16 to the outer surface 34, each of the turbulence bars such as 18 to 23 extending in a cross machine direction CD in contact with the inner surface 16, the bars such as 18 to 23 being circumferentially spaced equidistantly around the inner surface 16 of the dryer shell 12 for generating turbulence within the layer 32 so that uniformity of the transfer of thermal energy in the cross machine direction CD is maximized while the transfer of thermal energy through the dryer shell 12 from the inner surface 16 to the outer surface 34 is minimized; and

the maximizing uniformity of the transfer of thermal energy in the cross machine direction CD and minimizing the transfer of thermal energy through the dryer shell 12 from the inner surface 16 to the outer surface 34 being attained by the fitting of the specific number N of turbulence bars such as 18-23 within the dryer shell 12;

the specific number N of turbulence bars such as 18-23 being determined by the equation:

$$N = \text{int} \{ [2 \pi Ri / [4 \pi (Ri \delta)^{1/2} + W] ] \}$$

**Paragraph 0099 of the published specification describes**

N= the specific number of turbulence bars in the dryer shell 12;

**Paragraph 0100 of the published specification describes** int= an integer number of a value in {} brackets;

**Paragraph 0101 of the published specification describes**  $\pi = 3.1415$ ;

**Paragraph 0102 of the published specification describes  $R_i$  = the inside radius of the inner surface 16 of the dryer shell 16 in inches;**

**Paragraph 0103 of the published specification describes  $\delta$  = an average depth of the layer 32 in inches;**

**Paragraph 0104 of the published specification describes  $W$  = a width of each of the turbulence bars in inches.**

**Independent claim 12. Paragraph 0111 of the published specification describes**

A dryer bar apparatus 36 of a dryer 38 for drying a web  $W^b$  in a papermaking machine, the apparatus 36 comprising:

a rotatable dryer shell 12 of cylindrical configuration, the shell 12 defining an outer surface 34 and an inner surface 16;

a number  $N$  of dryer bars such as 18 to 23 pressed outwardly against the inner surface 16, each of the bars such as 18 to 23 extending in a cross machine direction  $CD$  along the inner surface 16; and

each bar such as 18 being spaced from an adjacent bar 19 by a quarter-resonant spacing  $S$  for maximizing uniformity of the transfer of thermal energy in the cross machine direction  $CD$  and minimizing the transfer of thermal energy through the dryer shell 12 from the inner 16 to the

outer surface 34, such that a rate of heat transfer through the dryer shell 12 from the inner surface 16 to the outer surface 34 is minimized while optimizing a temperature uniformity in the cross machine direction CD.

(H)

(vi) **Grounds of rejection to be reviewed on appeal.**

1/ Claims 1-3, 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salminen US5,564,494.

2/ Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnscheidt US 3217426.

3/ Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnscheidt et al US 3217426 as applied to claim 12 above and further in view of Wimmer 4478168.

4/ Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnscheidt et al US 3217426 as applied to claim 12 above, and further in view of Ives 7028756.

(I)

(vii) Arguments.

1/ An essential and very important feature of the present invention is the provision of a dryer shell (12) with internal bars positioned and spaced according to the present invention, in which the transfer of heat from the inside surface (16) to the outside surface (34) of the rotating dryer shell (12) maximizes **uniformity** of the transfer of thermal energy in the cross machine direction (CD) and **minimizes** the transfer of thermal energy through the dryer shell (12) from the inner surface (16) to the outer surface (34).

In claim 1, the specific number of bars is recited in order to **minimize** flow of heat from the steam through the dryer shell (12) so that the **uniformity**, in a cross machine direction CD, of the flow of heat through the dryer shell (12) is increased or maximized.

An objective of the present invention, as claimed in claim 1, is to have the same amount of heat flow through the dryer shell (12) all the way along the dryer shell (12) in a cross machine direction CD so that the web  $W^b$  will be equally dried in a cross machine direction CD. Claim 1 is **not** claiming **maximizing** the heat flow from the inner surface (16) to the outer surface (34) but rather **minimizing** the heat flow through the rimming condensate layer (32) while maximizing the **uniformity** of such heat flow in a cross machine direction CD.

The applied Salminen reference seeks to achieve heat transfer uniformity, but it has as a primary



objective **maximizing** the transfer of heat. This reference does not give even a hint concerning the aforementioned objective of **minimizing** the transfer of heat or the surprising discovery recited in claim 1 of the present application for producing uniformity of heat transfer while minimizing the transfer of heat. Furthermore, the applied Salminen reference does not teach the recited formula for achieving the required spacing for achieving such advantageous CD heat transfer uniformity while achieving low heat transfer. Still further, Salminen does not even teach the provision of cross-machine bars for inducing a low, but uniform, level of turbulence in the condensate layer between the bars.

The Examiner has taken the position that “applicant is merely optimizing the transfer of energy (the transfer of thermal energy in said cross machine direction or through said dryer shell being maximized or minimized, etc, uniform heat transfer with low heat transfer rate) which is well within the ability of an individual of ordinary skill. This is merely the result of the claimed spacing. The applicant is merely providing a certain number or spacing of bars to provide for an optimized result.”

Appellants respectfully disagree with the Examiner’s position for the following reason:

Claim 1 defines a configuration that will **minimize** the heat transfer through the dryer shell (12) from the inner surface (16) to the outer surface (34) and simultaneously achieve a flow of heat which is uniform along the CD direction, by using a unique configuration of dryer bars, while one skilled in the art would only consider dryer bars to **maximize** the heat transfer through the dryer. Such claimed arrangement is, if anything, contrary to what an individual of ordinary skill

would think of doing.

More specifically, the Salminen reference makes reference in the abstract to “improved heat transfer”, specifically increased heat transfer. The object of the subject invention, however, is **reduced** heat transfer, directing one skilled in the art away from the Salminen concepts.

Even more specifically, at column 8, line 38, Salminen highlights a configuration in that “further enhances the rate of heat transfer”. This addresses the problem of low heat transfer that occurs when the condensate is rimming and minimizes the bowing of the roll when the roll is stopped for feeding a different size or type of paper sheet through the corrugating roll. When the roll stops rotating, the steam which condenses puddles, pools or collects at the bottom of the inside surface of the roll . This layer of condensate at the bottom of the roll insulates the bottom of the roll from a flow of heat from the steam inside the roll. When the paper sheet is threaded and the roll begins rotating again after for example a 5 minute stoppage, the flow of heat through the roll will be non uniform for a considerable time after the start up even though the rimming speed has already been attained in which the condensate is evenly thrown by centrifugal force against the inner surface of the roll.

In Salminen, the aforementioned problem is addressed. However, such problem is not the problem that is addressed and solved by the arrangement recited in appealed claim 12. In the present invention, the dryer is always rotating and the condensate is always rimming inside the dryer cylinder and thermal bowing of the cylinder is not a problem to be solved.

Further, Salminen is specifically addressing the objective of **increasing** the transfer of heat from the roll by **minimizing** the thickness of the condensate layer. For example, in Col. 3 Lines 12-19, "Under rimming conditions, heat transfer is governed both by the thickness of the condensate and by fluid flow characteristics. The thinner the layer and more turbulent the flow, the less the resistance to heat transfer. Thickness of the condensate depends on the design, size, location and clearance of the siphon which extracts the condensate from the interior of the roll, roll speed and diameter, condensing rate and differential pressure. Turbulence depends on the condensate thickness and roll speed and diameter. **Minimizing** the condensate thickness, although resulting in a minimum of turbulence, will result in a **lower** resistance to, and greater uniformity of, heat transfer." In the present invention, the condensate thickness is not **minimized** to produce **lower** resistance, but rather is **optimized** to produce **higher** resistance to heat transfer."

Accordingly, Salminen addresses and endeavors to provide a solution to the problem of low heat transfer, but does not teach or disclose the combination claimed in claim 1 to solve the problem of non uniformity of heat transfer in the cross machine direction while **reducing** the transfer of heat.

Moreover, claim 1 provides an arrangement which greatly **reduces** the transfer of heat compared to other arrangements of dryer bars, while at the same time producing uniformity of heat transfer in a cross machine direction thus enabling the continuous production of a paper web which is dried more evenly along the width thereof in a **CD**. Such uniform **CD** drying in turn enhances any subsequent sizing, calendering or printing of the resultant web.

In the applied Salminen reference, there are no cross-machine dryer bars for generating uniformity of turbulence in the layer of condensate that would otherwise build up within the shell (108) thus insulating the shell (108) from the heat of the steam within the shell (108). Instead, Salminen teaches an insert which defines a plurality of CD valleys (130) which increase in cross sectional area in a direction from the respective sides (106) of the dryer shell (108) towards the siphon tube 126 located midway between the sides (106) of the dryer shell (108). Thus, the thickness of the insulating condensate is greatly reduced and the heat flow through the shell (108) will be correspondingly increased. Such CD valleys **maximize** the flow of heat from the steam through the shell (108) in a vicinity of the sides (106) of the shell (108).

However, in the present invention, rather than **maximize** the flow of heat with an insert that **reduces** the thickness of the condensate layer and **reduces** the condensate turbulence, the present invention **minimizes** the flow of heat by using an unique configuration of dryer bars that produce **uniform** turbulence with an **optimized** condensate layer thickness. More specifically, the present invention has a totally opposite objective and has uses a totally opposite approach with its solution. The specific spacing of the bars is provided by the formula recited in claim 1 in order to **minimize** flow of heat from the steam through the shell so that the **uniformity**, in a cross machine direction CD, of the flow of heat through the shell (12) is increased or **maximized**.

2/ **Claim 12 recites:**

“each bar being spaced from an adjacent bar by a quarter-resonant spacing for maximizing uniformity of the transfer of thermal energy in the cross machine direction and minimizing the

transfer of thermal energy through the dryer shell from the inner to the outer surface, such that a rate of heat transfer through the dryer shell from the inner to the outer surface is minimized while optimizing a temperature uniformity in the cross machine direction.”

An essential and very important feature of the present invention as recited in independent claim 12 is the provision of a dryer shell (12) in which the transfer of heat from the inside surface (16) to the outside surface (34) of the shell (12) maximizes uniformity of the transfer of thermal energy in the cross machine direction (CD) and **minimizes** the transfer of thermal energy through the dryer shell (12) from the inner surface (16) to the outer surface (34).

In the applied Salminen reference, there are no dryer bars for generating uniformity of turbulence in the layer of condensate that would otherwise build up within the dryer shell thus insulating the heat of the steam from the inner surface of the shell. Instead, Salminen teaches an insert which defines a plurality of CD valleys (130) which increase in cross sectional area in a direction from the respective sides (106) of the dryer shell (108) towards the siphon (126) located midway between the sides (106) of the dryer shell (108). Thus, in Salminen, the thickness of the insulating condensate is greatly reduced and the heat transfer rate correspondingly increased. . Such CD valleys **maximizes** the flow of heat of the steam through the shell (108) in a vicinity of the sides (106) of the shell (108).

However, in the present invention, rather than **maximize** the flow of heat, the opposite condition is being sought in order to **minimize** the flow of heat while at the same time maximizing the **uniformity** in a cross machine direction CD of such heat flow. The specific spacing of the bars

by a quarter resonance is provided in order to **minimize** flow of heat from the steam through the dryer shell (12) so that the **uniformity**, in a cross machine direction **CD**, of the flow of heat through the dryer shell (12) is increased or maximized.

An objective of the present invention, as claimed in claim (12), is to have the same amount of heat flow through the dryer shell (12) all the way along the dryer shell (12) in a cross machine direction **CD** so that the web **W<sup>b</sup>** will be equally dried all of the way along a cross machine direction **CD** of the web.

More particularly, claim 12 is **not** claiming maximizing the heat flow from the inner surface (16) to the outer surface (34) but rather **maximizing the uniformity** of such heat flow in a cross machine direction **CD**. This is achieved by decreasing or **reducing** such heat flow of the steam through the condensate layer (32) to a **minimum**.

The applied Salminen reference does not give even a hint concerning the aforementioned surprising discovery recited in claim 12 of the present application. Furthermore, the applied Salminen reference does not teach the quarter resonant spacing recited in claim 12 for achieving the advantageous result of the present invention. Also, Salminen does not teach any dryer bars.

Respectfully submitted,

David J. Archer

**Applicant's representative**

**Reg. No. 31,076**

**(J)**

**(viii) Claims appendix.**

1. A dryer bar apparatus of a dryer for drying a web in a papermaking machine, the apparatus comprising:

a rotatable dryer shell of cylindrical configuration, the dryer shell having an outer surface for drying the web;

the dryer shell having an inner surface which defines an enclosure, the inner surface having a radius  $R_i$ ;

the enclosure being connected to a source of pressurized steam such that in operation of the dryer, a transfer of thermal energy from the steam within the enclosure through the inner surface of the dryer shell to the outer surface of the dryer shell is achieved so that the web is dried;

a syphon disposed within the enclosure for controlling a layer of condensed steam accumulating adjacent to the inner surface of the dryer shell during operation of the apparatus;

a specific number of turbulence bars disposed within the enclosure for maximizing uniformity of the transfer of thermal energy in a cross machine direction and minimizing the transfer of



thermal energy through the dryer shell from the inner to the outer surface, each of the turbulence bars extending in a cross machine direction in contact with the inner surface, the bars being circumferentially spaced equidistantly around the inner surface of the dryer shell for generating turbulence within the layer so that uniformity of the transfer of thermal energy in the cross machine direction is maximized while the transfer of thermal energy through the dryer shell from the inner to the outer surface is minimized; and

the maximizing uniformity of the transfer of thermal energy in the cross machine direction and minimizing the transfer of thermal energy through the dryer shell from the inner to the outer surface being attained by the fitting of the specific number of turbulence bars within the dryer shell;

the specific number of turbulence bars being determined by the equation:

$$N = \text{int} \{ [2 \pi R_i / [4 \pi (R_i \delta)^{1/2} + W] \}$$

in which:

$N$  = the specific number of turbulence bars in the dryer shell;

$\text{int}$  = an integer number of a value in  $\{ \}$  brackets;

$\pi = 3.1415$ ;

$R_i$  = the inside radius of the inner surface of the dryer shell in inches;

$\delta$  = an average depth of the layer in inches;

W= a width of each of the turbulence bars in inches.

2. A dryer bar apparatus as set forth in claim 1 wherein

the number of turbulence bars is equal to  $N \pm 1$ .

3. A dryer bar apparatus as set forth in claim 1 wherein

the number of turbulence bars is equal to  $N \pm 2$ .

4. A dryer bar apparatus as set forth in claim 3 further including:

a further number of hoop segments spaced circumferentially along the inner surface of the dryer shell for holding the turbulence bars in contact with the inner surface;

the number of turbulence bars being a multiple of the further number of hoop segments.

5. A dryer bar apparatus as set forth in claim 1 wherein

$N = 3$ .

6. A dryer bar apparatus as set forth in claim 1 wherein

N = 4.

7. A dryer bar apparatus as set forth in claim 1 wherein

N = 5.

8. A dryer bar apparatus as set forth in claim 1 wherein

N = 6.

9. A dryer bar apparatus as set forth in claim 1 wherein

N = 7.

10. A dryer bar apparatus as set forth in claim 1 wherein

N = 8.

11. A dryer bar apparatus as set forth in claim 1 wherein

N = 9.

12. A dryer bar apparatus of a dryer for drying a web in a papermaking machine, the apparatus comprising:

a rotatable dryer shell of cylindrical configuration, the shell defining ~~and~~ an outer and an inner surface;

a number of dryer bars pressed outwardly against the inner surface, each of the bars extending in a cross machine direction along the inner surface; and

each bar being spaced from an adjacent bar by a quarter-resonant spacing for maximizing uniformity of the transfer of thermal energy in the cross machine direction and minimizing the transfer of thermal energy through the dryer shell from the inner to the outer surface, such that a rate of heat transfer through the dryer shell from the inner to the outer surface is minimized while optimizing a temperature uniformity in the cross machine direction.

13. A dryer bar apparatus as set forth in claim 12 wherein

the quarter-resonant spacing is determined by an equation:

$$S=4\pi(Ri\delta)^{1/2} \text{ in which;}$$

S= the quarter-resonant spacing;

$$\pi = 3.1415;$$

$R_i$  = the inside radius of the inner surface of the dryer shell in inches;

$\delta$  = an average depth of a layer of condensed steam disposed adjacent to the inner surface in inches.

14. An apparatus as set forth in claim 12 wherein

a cross-section of each of the bars is within a range from 0.25 inches x 0.25 inches to 1.0 inches x 1.50 inches;

each of the bars is metallic and of hollow tubular configuration;

the apparatus including:

at least one hoop for pressing each of the bars against the inner surface of the dryer shell;

the at least one hoop including:

at least one segment.

(K)

(ix) **Evidence appendix.**

1/ **US\$5,564,494 to Salminen pages 1-21**

**(L) Related proceedings appendix:**

**None**



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,889	11/17/2003	Gerald L. Timm	1349	5292
40313	7590	01/06/2009		
DAVID J. ARCHER 7037 POMERY ROAD ROCKTON, IL 61072			EXAMINER RINEHART, KENNETH	
			ART UNIT 3743	PAPER NUMBER
			MAIL DATE 01/06/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



<b>Notice of Abandonment</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/715,889	TIMM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	KENNETH B. RINEHART	3743	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on 03 September 2008.
  - (a) ☐ A reply was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply (including a total extension of time of \_\_\_\_\_ month(s)) which expired on \_\_\_\_\_.
  - (b) ☐ A proposed reply was received on \_\_\_\_\_, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.  
(A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
  - (c) ☐ A reply was received on \_\_\_\_\_ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
  - (d) ☐ No reply has been received.
2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
  - (a) ☐ The issue fee and publication fee, if applicable, was received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
  - (b) ☐ The submitted fee of \$\_\_\_\_\_ is insufficient. A balance of \$\_\_\_\_\_ is due.  
The issue fee required by 37 CFR 1.18 is \$\_\_\_\_\_. The publication fee, if required by 37 CFR 1.18(d), is \$\_\_\_\_\_.
  - (c) ☐ The issue fee and publication fee, if applicable, has not been received.
3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
  - (a) ☐ Proposed corrected drawings were received on \_\_\_\_\_ (with a Certificate of Mailing or Transmission dated \_\_\_\_\_), which is after the expiration of the period for reply.
  - (b) ☐ No corrected drawings have been received.
4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
6. ☐ The decision by the Board of Patent Appeals and Interference rendered on \_\_\_\_\_ and because the period for seeking court review of the decision has expired and there are no allowed claims.
7. ☒ The reason(s) below:  
  
see attached

/Kenneth B Rinehart/  
Supervisory Patent Examiner, Art Unit 3743

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

The applicant failed to meet the requirements of at least Section 4: Summary of claimed subject matter must identify and map all independent claims on appeal (12) to specification by page and line number or paragraph number. of the miscellaneous office action mailed on 9/3/08